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PATENT

Attorney Docket No.:
034103.019

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND
INTERFERENCES**

In re PATENT APPLICATION of:

NAGAO, T. *et al.*

Group Art Unit: 3721

Application Serial No: 09/512,276

Examiner: TRAN, L.B.

Filed: February 24, 2000

Title: GLASS BASE MATERIAL PACKING METHOD

REPLACEMENT BRIEF ON APPEAL

This is in response to the Communication re Appeal mailed July 15, 2004 in the above-referenced case and requiring correction of the Brief on Appeal filed December 22, 2003.

Submitted herewith, in triplicate, is the corrected Brief on Appeal.

This response is filed within one month of the mailing date of the Communication re Appeal. Accordingly, no extension of time is required and no fee is due in this regard. In addition, the fee required with submission of a Brief on Appeal was remitted at the time the Brief was filed on December 22, 2003.

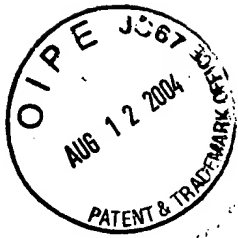
Respectfully submitted,

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Dated: August 12, 2004



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REPLACEMENT BRIEF ON APPEAL

In response to the office action dated July 15, 2004 in which the Applicant was advised that the originally filed Brief on Appeal did not comply with the requirements of 37 CFR 1.192(c), this replacement Brief (in triplicate) is provided. In view of the Examiner's assertion that the original brief did not include sufficient citation, citations in the Summary portion of the brief are in **bold**.

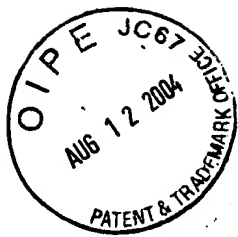
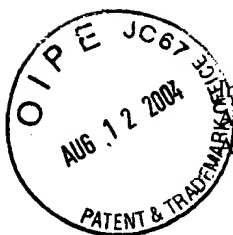


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Inventor(s): NAGAO *et al.*
Application No.: 09/512,276
Attorney Docket No.: 034103.019

This Appeal is from an official action mailed February 21, 2003 finally rejecting claims 2 to 6, 8, and 34 of the previously identified application followed by an Advisory Action mailed May 30, 2003, affirming the claim rejections.

1. Real Party in Interest

The real party of interest for this Appeal and the present application is Shin-Etsu Chemical, Co., as evidenced by the assignment recorded at the United States Patent and Trademark Office on May 26, 2000 on Reel 010823, Frame 0121.

2. Related Appeals and Interferences

The appellant, appellant's legal representatives, or the assignee are not aware of any related appeals or interferences that will directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.

3. Status of Claims

Claims 2-16 and 34 are pending of which claims 2 to 6, 8, and 34 stand rejected, and are on appeal. Claims 17-33 were withdrawn and claim 1 was canceled. The claims on appeal are set forth in the attached Appendix. Claims 2 and 3 are independent; claims 4 to 6, 9, and 10 individually depend from claim 2; claims 7 and 8 individually depend from claim 6; claim 12 individually depends from claim 11; claims 13, 14, and 16 individually depend from claim 12; claim 15 individually depends from claim 13; and claim 34 depends from claims 2 and 3. The appellants note that claim 11 depends from canceled claim 1. Upon indication of the allowance of claim 2, the appellants shall amend claim 11 to depend from claim 2.

4. Status of Amendments

Subsequent to the final rejection an amendment was submitted on May 9, 2003, in which claims 2 and 3 were amended. This amendment was entered as indicated in the Advisory Action of May 30, 2003, which also affirmed the outstanding claim rejections.

5. Summary of Inventions

The inventions relate in general to packing methods for packing quartz glass or quartz glass base materials, from which optical fibers are produced (**page 1, lines 11-13**). A problem in the optical fiber production industry has been the presence of cracks in the surface of the quartz glass or quartz glass base materials. If there are cracks in the base material, the

optical fibers tend to cut during production (drawing) (**page 1, lines 25-27**). Therefore, it is important to minimize flaws in the glass base material during its handling (**page 1 lines 27-28**).

Glass base material is generally shipped with a plurality of glass base materials packed together in one box (**page 2, lines 9-10**). Shipping multiple materials in one container increases the opportunity for damage as the individual materials come in contact with each other due to vibration, etc. (**page 2, lines 11-12**). Conventional methods for packing glass base material use large amounts of cushion material between the individual pieces to minimize movement and damage (**page 2, lines 13-15**). This way of packing and shipping is not very economical in that it is both space and labor intensive. Each piece of material must be individually wrapped and packed (**page 2, line 24 – page 3 line 7**).

The inventions claimed herein provide methods for packing glass base materials that overcome problems associated with conventional methods of packing (**page 1, line 17 to page 3, line 13**).

According to one aspect of the claimed inventions there is provided a packing method in which glass base materials are packed into a plastic bag and then into a cylindrical container (**page 3, lines 18-23**) that is rigid enough to withstand a load from the glass base material (**page 3, lines 18-30**).

Another inventive packing method includes rolling up the glass base material having a cylindrical shape with air packing material and packing it into a cylindrical container, which container is rigid enough to withstand a load from the glass base material (**page 4, lines 16 to 22; page 5, lines 1 to 6**).

Independent **claim 2** is directed to a method of packing a glass base material of an optical fiber, comprising putting the glass base material having a cylindrical shape over its whole length into a plastic bag and packing the glass base material into a cylindrical container rigid enough to withstand a load from the glass base material.

Independent **claim 3** is directed to a method of packing a glass base material of an optical fiber, comprising rolling up the glass base material having a cylindrical shape over its whole length with air packing material containing air inside and packing the glass base material rolled up with the air packing material into a cylindrical container rigid enough to withstand a load from the glass base material.

Claim 4 depends from and further limits **claim 3** and is directed to a method of packing a glass base material, wherein the rolling up step rolls up the glass base material, which is put into the plastic bag, with three-layers of the air packing material.

Claim 5 depends from and further limits **claim 3** and is directed to a method of packing a glass base material, wherein the packing packs the glass base material in the cylindrical container which has an inside diameter of approximately 10 mm larger than a diameter of the glass base material.

Claim 6 depends from and further limits **claim 3** and is directed to a method of packing a glass base material, wherein the packing further comprises capping both ends of the cylindrical container, which packs the glass base material, by caps.

Claim 8 depends from and further limits **claim 6** and is directed to a method of packing a glass base material, wherein the packing further comprises providing an inside cap, which has a shape that can fit with a shape of end of the glass base material, on a space between the end of the glass base material and the cap.

Claim 34 depends from and further limits claims 2 or 3. It is directed to a method of packing a glass base material, wherein the cylindrical container is made of at least one of a material selected from the group consisting of cardboard, plastic, cardboard plastic, wood, and metal.

6. Issues

The final official action, dated February 21, 2003, rejected claims 2 and 34 as allegedly being unpatentable over Simon (U.S. Pat. No. 4,560,069) in view of Curry, Jr. (U.S. Pat. No. 4,267,928); claims 3 to 6 as allegedly being unpatentable over Simon in view of Curry, Jr., and in further view of Harmony (U.S. Pat. No. 4,268,567); and claim 8 as allegedly being unpatentable over Simon in view of Curry, Jr., Harmony, and in further view of Dhority *et al.* (U.S. Pat. No. 5,236,088).

Therefore, the issues on appeal are whether claims 2 and 34 are obvious over Simon in view of Curry, Jr.; whether claims 3 to 6 are obvious over Simon in view of Curry, Jr. and Harmony; and whether claim 8 is obvious over Simon in view of Curry, Jr., Harmony, and Dhority *et al.* all under 35 U.S.C. §103.

7. Grouping of Claims

Each claim in this patent application is separately patentable and upon issuance of a patent will be entitled to a separate presumption of validity under 35 U.S.C. §282. For this appeal, however, the claims are grouped as follows:

Group 1: Claims 2 and 34/2

Group 2: Claims 3 to 6 and 8 and 34/3

Although Applicant considers each claim to stand or fall on its own, a grouping is required and as such, the above grouping is a reasonably logical one.

8. Argument

Claims 2 and 34 are patentable over Simon in view of Curry, Jr.. Simon describes a package assembly for transporting hazardous material. In Simon, a bottle containing the hazardous material is surrounded by cut or molded foam elements and placed in a metal can (column 1, lines 19 to 23). Simon does not pack glass base material of an optical fiber having a cylindrical shape over its whole length, by putting the glass base material into a plastic bag. The bottle of Simon is neither a glass base material for optical fiber nor does it have a cylindrical shape over its whole length.

The examiner uses Curry, Jr. to attempt to overcome some of the deficiencies of Simon. Curry Jr. describes a container with a plastic liner. The plastic liner is shrunk around the walls of the container (column 1, lines 44 to 46). Curry, Jr., however, does not pack glass base material of an optical fiber having a cylindrical shape over its whole length. Furthermore, the plastic bag of the present invention is not shrunk around the container.

There is no motivation for one of ordinary skill in the art to combination Simon with Curry, Jr. as the use of a plastic liner from Curry, Jr. would be unnecessary considering that the bottle is snugly fitted within the foam of Simon (column 2, line 8). In addition, *if* Simon were combined with Curry, Jr., the combination would not teach or suggest all the claim limitations as neither reference describes glass base material.

The examiner alleges that Kawamura (JP 4092249425) provides evidence showing that “glass base material” and “glassware” (mentioned in Curry, Jr.) are interchangeable terms. This allegation is not supported by Kawamura.

Paragraph [0005] of Kawamura states that the invention is glassware characterized by making a pattern expressed with paints containing heavy metal buried in the glass base

material which has transparency. In other words, the glass base material is used to form the glassware, *i.e.*, they are different entities and not interchangeable with each other. The examiner's position with respect to Kawamura is wrong.

Therefore, the appellants respectfully submit that claim 2 is patentable under 35 U.S.C. §103 over Simon in view of Curry, Jr. and respectfully request that the Honorable Board withdraw this rejection.

The appellants respectfully submit that claim 34 is patentable under 35 U.S.C. §103 over Simon in view of Curry, Jr. for at least the reasons given above for claim 2 and for additional limitations and features in claim 34.

None of the cited patents teach or suggest, *inter alia*, a cylindrical container made of cardboard, plastic, cardboard plastic, wood, or metal.

Claims 3 to 6 are patentable over Simon in view of Curry, Jr. and Harmony.

Appellants respectfully submit that claim 3 is patentable under 35 U.S.C. §103 over Simon in view of Curry, Jr., and Harmony for at least the following reasons.

As noted in the arguments for claim 2, Simon does not pack glass base material of an optical fiber having a cylindrical shape over its whole length, by putting the glass base material into a plastic bag. The bottle of Simon is neither a glass base material for optical fiber nor does it have a cylindrical shape over its whole length. Further, Simon does not mention use of air packing material, which would be unnecessary considering that the bottle is snugly fitted within the foam.

In Curry, Jr., air or gas is compressed, contained in a bag, and used to provide pressure against liquid contained in an adjacent bag. The function of the air is to push the liquid out of a spray nozzle. One of ordinary skill in the art would not view the compressed air of Curry, Jr. as air packing material containing air inside, as claimed in claim 3. If anything, the use of compressed air, as in Curry, Jr., would teach away from the present invention as it would either force any contents towards the ends of a container, thereby increasing the risk of damage, or be too inflexible to provide adequate cushioning. In contrast, the function of air in the present invention is to shield the glass base material away from the ends of a container and cushion it by rolling it up with the air packing material.

Harmony describes a reusable insulator for canned drinks to reduce the rate of warming, thereby permit dawdling consumption of the liquid therein (column 1, lines 15 to

18 and lines 39 to 40). These insulators are made of polyethylene foam. The insulators of Harmony are in a different field and directed to different purpose than the air packing material of the present invention. Neither Simon, nor Curry, Jr., nor their combination would suggest, to one of ordinary skill in the art, the polyethylene foam insulators of Harmony, designed to keep liquids from getting warmed too quickly as air packing material in which solid glass base material is rolled up as in the present invention.

Not only would one of ordinary skill in the art not seek to combine Simon with Curry, Jr., and Harmony but such a combination would also not teach or suggest all the claimed features. Therefore, appellants respectfully submit that claim 3 is patentable under 35 U.S.C. §103 over Simon in view of Curry, Jr. and Harmony and respectfully request that the Honorable Board withdraw this rejection.

The appellants respectfully submit that claim 4 is patentable under 35 U.S.C. §103 over Simon in view of Curry, Jr. and Harmony for at least the reasons given above for claim 3 and for additional limitations and features in claim 4.

None of the cited patents teach or suggest, *inter alia*, rolling up the glass base material, which is put into the plastic bag, with three-layers of the air packing material.

The appellants respectfully submit that claim 5 is patentable under 35 U.S.C. §103 over Simon in view of Curry, Jr. and Harmony for at least the reasons given above for claim 3 and for additional limitations and features in claim 5.

None of the cited patents teach or suggest, *inter alia*, the cylindrical container with an inside diameter of approximately 10 mm larger than a diameter of the glass base material.

The appellants respectfully submit that claim 6 is patentable under 35 U.S.C. §103 over Simon in view of Curry, Jr. and Harmony for at least the reasons given above for claim 3 and for additional limitations and features in claim 6.

None of the cited patents teach or suggest, *inter alia*, the packing further comprising capping both ends of the cylindrical container by caps.

Claim 8 is patentable over Simon in view of Curry, Jr., Harmony, and Dhority *et al.* Appellants respectfully submit that claim 8 is patentable under 35 U.S.C. §103 over Simon in view of Curry, Jr., Harmony, and Dhority *et al.* for at least the reasons given above for claim 6 and for additional limitations and features in claim 8.

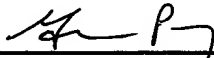
None of the cited patents teach or suggest, *inter alia*, the packing further comprising providing an inside cap with a shape that can fit with a shape of the end of the glass base material, on a space between the end of the glass base material and the cap.

Dhority *et al.* describe a kit for handling and shipping explanted orthopedic implants and/or tissue samples (column 1, lines 7 to 10). Dhority *et al.* are in a very different field from the present invention and there would be no motivation for one of ordinary skill in the art to combine the teachings of this patent with Simon, Curry, Jr., and Harmony. Furthermore, this combination does not teach or suggest all the claim limitations, for example, packing glass base material.

CONCLUSION

For the reasons discussed above, the appellants respectfully submit that claims 2 to 34 are not obvious over Simon in view of Curry, Jr. under 35 U.S.C. §103; claims 3 to 6 are not obvious over Simon in view of Curry, Jr., and Harmony under 35 U.S.C. §103; and claim 8 is not obvious over Simon in view of Curry, Jr., Harmony, and Dhority *et al.* under 35 U.S.C. §103(a). The appellants respectfully request the Honorable Board to reverse the rejection of these claims.

Respectfully submitted,
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Dated: August 12, 2004

APPENDIX

Claims 2 to 16 and 34 are pending as follows:

Claim 2. A method of packing a glass base material of an optical fiber, comprising:

putting said glass base material having a cylindrical shape over its whole length into a plastic bag; and

packing said glass base material which has been put in a plastic bag into a cylindrical container, which container is rigid enough to withstand a load from said glass base material.

Claim 3. A method of packing a glass base material of an optical fiber, comprising:

rolling up said glass base material having a cylindrical shape over its whole length with air packing material that contains air inside; and

packing said glass base material rolled up with said air packing material into a cylindrical container, which container is rigid enough to withstand a load from said glass base material.

Claim 4. A method of packing a glass base material as claimed in claim 3, wherein said rolling up step rolls up said glass base material, which is put into said plastic bag, with three-layers of said air packing material.

Claim 5. A method of packing a glass base material as claimed in claim 3, wherein said packing packs said glass base material in said cylindrical container which has an inside diameter of approximately 10 mm larger than a diameter of said glass base material.

Claim 6. A method of packing a glass base material as claimed in claim 3, wherein said packing further has:

capping both ends of said cylindrical container, which packs said glass base material, by caps.

Claim 7. A method of packing a glass base material as claimed in claim 6, wherein said packing further has:

filling space between an end of said glass base material and said cap with a cushion material.

Claim 8. A method of packing a glass base material as claimed in claim 6, wherein said packing further has:

providing an inside cap, which has a shape that can fit with a shape of end of said glass base material, on a space between said end of said glass base material and said cap.

Claim 9. A method of packing a glass base material as claimed in claim 3, further comprising:

packing a plurality of said cylindrical containers, each of which is packed with said glass base material, into a cylindrical container.

Claim 10. A method of packing a glass base material as claimed in claim 3, further comprising:

packing a plurality of said cylindrical containers, each of which is packed with said glass base material, into a square-shaped box.

Claim 11. A method of packing a glass base material as claimed in claim 1, wherein said packing packs a plurality of said glass base materials into said cylindrical container.

Claim 12. A method of packing a glass base material as claimed in claim 11, wherein said packing has:

putting each of said plurality of said glass base materials into each of individual plastic bags; and

packing said plurality of said glass base materials, each of which are put into said each of individual plastic bags, into said cylindrical container.

Claim 13. A method of packing a glass base material as claimed in claim 12, wherein said packing further has:

wrapping together said plurality of said glass base materials, each of which are put into said each of individual plastic bags, with air packing material, which contains air inside; and

packing said plurality of said glass base materials wrapped with said air packing material into said cylindrical container.

Claim 14. A method of packing a glass base material as claimed in claim 12, wherein said packing further has:

wrapping each of said plurality of said glass base materials, each of which are put into said each of individual plastic bags, with each of individual air packing material, which contains air inside; and

wrapping together said plurality of said glass base materials, each of which are wrapped with said each of individual air packing material, with a secondary air packing material, which contains air inside; and

packing said plurality of said glass base materials, wrapped with said secondary air packing material into said cylindrical container.

Claim 15. A method of packing a glass base material as claimed in claim 13, wherein said packing packs said plurality of said glass base materials in said cylindrical container which has an inside diameter of approximately 10 mm larger than total diameter of said plurality of said glass base materials.

Claim 16. A method of packing a glass base material as claimed in claim 12, wherein said packing has:

putting each of seven pieces of said glass base materials into said each of individual plastic bags; and

bundling together said seven pieces of said glass base materials, each of which are put into said each of individual plastic bags, such that six pieces of said glass base materials are arranged in a hexagonal arrangement around one central said glass base material; and

packing said seven pieces of said glass base materials, bundled together into said cylindrical container.

Claim 34. A method of packing a glass base material as claimed in claim 2 or 3, wherein said cylindrical container is made of at least one of material selected from the group consisting of cardboard, plastic, cardboard plastic, wood and metal.